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PRE-APPEAL BRIEF REQUEST FOR REVIEW	Docket Number (Optional) MWS-040RCE	
	Application Number 09/870,280-Conf. #7303	Filed May 30, 2001
	First Named Inventor Mojdeh SHAKERI *et al.*	
	Art Unit 2121	Examiner T. H. Stevens

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- [ ] applicant /inventor.
- [ ] assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- [x] attorney or agent of record. Registration number 35,470
- [ ] attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34. _____

Signature

Kevin J. Canning
Typed or printed name

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Telephone number

July 9, 2007
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

- [ ] *Total of 1 forms are submitted.

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted by facsimile to the Patent and Trademark Office, facsimile no. (571) 273-8300 at MS AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: July 9, 2007 Signature: _____ (Kevin J. Canning)

MWS-040RCE Art Unit 2121

Application No: 09/870,280 Examiner T. STEVENS

ARGUMENTS ACCOMPANYING
PRE-APPEAL BRIEF REQUEST FOR REVIEW

Procedural History

Applicants' claims 1-34 were originally rejected in an Office Action dated October 7, 2004. Applicants filed an Amendment in Response to the original rejection, adding new claims 35-36 to the application on January 7, 2005. Applicant's claims 1-36 were finally rejected in an Office Action dated April 28, 2005. Responsive to the Final Rejection, Applicant filed a Response to the rejection and Request for Continued Examination on June 10, 2005. Applicants' claims 1-36 were rejected in an Office Action dated July 19, 2005. Applicants filed a Response to the rejection on October 19, 2005. Applicants' claims were rejected in an Office Action dated January 12, 2006. Applicants filed an Amendment in Response to the rejection on April 12, 2006. Applicants' claims 1-36 were rejected in an Office Action dated July 18, 2006. Applicants filed an Amendment in Response to the rejection canceling claim 10 on November 20, 2006. The Examiner maintained his rejection of claims 1-9 and 11-36 in a Final Office Action dated February 15, 2007 from which Applicants file herewith a Notice of Appeal.

Brief Summary

The claimed invention provides a modeling process that groups multiple output signals and/or signal values as an ordered set in a multiplexer as a composite signal. Composite signals are used to generate efficient graphical representations of block diagram models. Composite signals simplify block diagram model navigation and signal selection. Using composite signals reduces memory requirements for graphical representation of the block diagram model and block diagram model execution. As such, composite signals result in faster block diagram model execution and code generation.

Arguments

Claims 1, 14, 21, 25, 29, 33, 34, 35 and 36 are the independent claims in the pending application. The Examiner rejected claims 1-9 and 11-36 under 35 U.S.C. § 101. Claims 1, 2, 8, 9, 11-36 are rejected under 35 U.S.C. § 102(b) as being anticipated by Matlab News and

Notes (February 2000), (hereafter "MNN"). The Examiner further rejected claims 2-7 under 35 U.S.C. § 103(a) as being unpatentable over MNN.

In case of claims 1-9 and 11-36, claims recite patentable subject matter as outputting composite signals are a useful, concrete and tangible result. In the case of independent claims 1, 14, 21, 25, 29, 33, 34, 35 and 36, MNN fails to disclose, teach or suggest at least one of the claimed limitations, specifically "a composite signal."

§101 Rejections

On July 6, 2007, Applicants have submitted claim amendments that would present rejected claims in better form for consideration on appeal. Claims 1, 14, 21, 25, 29, 33-35 have been amended to recite storing the composite signal in a storage device. Claim 36 has been amended to recite storing the composite signal identifier in a storage device. Amended claims all recite a useful, concrete and tangible result of storing the composite signals or composite signal identifiers. As such, Applicants believe that the proposed amendments address the rejection of claims under 35 U.S.C. § 101.

However, if the claim amendments of July 6, 2007 have not been entered, Applicants believe that claims reciting a composite signal still provide a useful, concrete and tangible result as explained below.

Claims 1, 14, 21 and 25 provide grouping "the plurality of output signals as an ordered set in a multiplexer as a first *composite signal*." Claims 1, 21 and 25 further provide outputting "the first *composite signal*." Claim 14 further provides "processing the *composite signal* in a third block."

Claims 29, 33 and 34 provide grouping "the output signals as an ordered set in a multiplexer as a *composite signal*" and outputting "the *composite signal*."

Claims 35-36 provide "*a composite signal* comprising a set of the plurality of output signals."

Applicants' claims 1-9 and 11-36 all provide a composite signal. A composite signal, as used in this application, represents an ordered set of signals that are bundled together to form a single entity. In light of the definition attributed to the composite signal in the

specification, a composite signal is a general facility for grouping and splitting a set of heterogeneous or homogeneous signals without loss of information. Processing a composite signal in the processor is faster than processing each single signal individually.

Moreover, composite signals simplify the generation of a block diagram model and the resulting visual appearance of the block diagram model. Composite signals further simplify block diagram model navigation and signal selection. Using composite signals reduces the memory requirements for graphical representation of the block diagram model and block diagram model execution.

As such, outputting or providing composite signals is a useful, concrete and tangible result since using composite signals results in faster block diagram model execution and code generation. Accordingly, Applicants believe claims 1-9 and 11-36 are in condition for allowance.

§102 Rejections

Claims 1 and 14 provide "grouping the plurality of output signal values as an ordered set in a multiplexer as a first *composite signal*." Claims 21 and 25 similarly provide "group the plurality of output signal values as an ordered set in a multiplexer as a first *composite signal*." Claims 29, 33, and 34 each provide "grouping" (claim 29) or "group" (claims 33 and 34) output signals "in a multiplexer as a *composite signal*" (claims 29, 33, 34). Applicants' claims 35-36 provide "a *composite signal* comprising a set of the plurality of output signals." MNN fails to disclose these limitations.

MNN discusses the concept of multirate filters as an approach to the design and implementation of finite impulse response filters with narrow spectral constraints. While describing multirate bandpass and highpass narrowband designs, MNN describes quadrature modulation requiring a complex signal with real and imaginary parts. This design is illustrated with block diagrams in Simulink® software in MNN. The block diagram illustrated on MNN Figure 5 uses the complex signal denoted by (c). (See MNN, p.13). MNN discusses complex signals that have real and imaginary parts. The modulate block of MNN (see MNN, p. 13, Figure 5) is not a multiplexer. The output of a modulate block is the

product of the inputs of the modulate block. The output of a modulate block is not a composite signal that is an ordered set of signals.

Applicants' claims require providing a "composite signal." A composite signal represents an ordered set of signals that are bundled together to form a single entity. The composite signal is a general facility for grouping and splitting a set of heterogeneous or homogeneous signals without loss of information. MNN does not disclose composite signals. MNN discusses complex signals. A signal is referred to as a complex signal when the value of the signal is a complex number. However, a signal is referred as a composite signal when the signal is formed of "an ordered set of the plurality of output signals." The word "composite" is an attribute of form while the word "complex" is an attribute of value. MNN does not disclose composite signals.

MNN further does not disclose grouping the plurality of output signal values as an ordered set in a multiplexer as a first *composite signal.*" The block diagram illustrated in Figure 5 of MNN shows how to use modulators to multiply a single signal with a complex function. The modulator in MNN is not a multiplexer that groups output signals values as an ordered set. Accordingly, Applicants believe claims 1-9 and 11-36 are in condition for allowance.

§103 Rejections

Claims 2-7 depend from independent claim 1 and, as such, incorporate each and every element of claim 1. Claim 1 recites "grouping the plurality of output signal values as an ordered set in a multiplexer as a first *composite signal*" and "outputting the first *composite signal.*" MNN does not teach or suggest composite signals.

MNN fails to teach or suggest forming a composite signal in a multiplexer to represent an ordered set of the plurality of output signals as a single signal. Rather, MNN discusses using modulate and demodulate blocks that multiply the inputs to form a single output that is not a composite signal. The output of the modulate and demodulate blocks represent the product of the inputs of these blocks. A multiplexer does not perform a multiplication operation on the inputs. The output of the multiplexer is a single signal that

represents an ordered set of the multiple input signals. MNN fails to teach or suggest *composite* signals.

MNN discusses creating sophisticated GUIs, displaying results in two-dimensional plots or with three-dimensional visualizations, and choosing from several hundred types of mathematical operations. Claim 2 teaches "each of the blocks includes at least one output signal port." Claim 3 teaches "a plurality of input signals and output signals have at least one attribute." Claims 4-7 further teach, respectively, the attributes being "name," "data type," "numeric type," and "dimensionality." The attributes of claims 4-7 are the attributes of the input and output signal values. The attributes taught in claims 4-7 are different than amplitude/phase/frequency attributes that are used for graphical illustrations of sinusoidal signals processing analysis discussed in MNN. The attributes of claims 4-7 are not used to create sophisticated GUIs to display 2D and 3D results, as taught by MNN (p.6, left col., § 3, lines 5-8). Accordingly, since the cited reference fails to disclose, teach or suggest all of the limitations in Applicants' independent claims, Applicants believe claims 2-7 are in condition for allowance.

In the Final Office Action, the Examiner asserts that a complex signal can be a composite signal, for example, a Fourier series of any sine/cosine function has the fundamental, 3rd harmonic, 5th harmonic, etc. Applicants note that any signal may be represented as a Fourier decomposition. However, a Fourier decomposition is not an ordered set of signal and a Fourier decomposition would not make a signal a composite signal.

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Respectfully submitted,

By _____

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